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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,700	11/04/2003	Masahiro Ozawa	011350-324	5850
21839	7590	07/31/2008		
BUCHANAN, INGERSOLL & ROONEY PC			EXAMINER	
POST OFFICE BOX 1404			KRASNIC, BERNARD	
ALEXANDRIA, VA 22313-1404				
		ART UNIT	PAPER NUMBER	
		2624		
		NOTIFICATION DATE	DELIVERY MODE	
		07/31/2008	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary

Application No.

10/699,700

Applicant(s)

OZAWA, MASAHIRO

Examiner

BERNARD KRASNIC

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/05/2008 has been entered.

2. The application has pending claim(s) 1-16.

3. In response to the Request for Continued Examination filed on 6/05/2008:

The "Objections to the specification [abstract]" have been entered and therefore the Examiner withdraws the objections to the specification [abstract].

The "Objections to the claims" have been entered, but the Applicant has not amended one of the addressed claim objections and therefore the Examiner has once again addressed these issues.

4. Applicant's arguments with respect to claim(s) 1-16 have been considered but are moot in view of the new ground(s) of rejection because of the Request for Continued Examination (RCE).

5. Applicant's arguments filed 6/05/2008 have been fully considered but they are not persuasive.

The Applicant alleges, "According to one aspect of the present invention ..." in page 17 through "Although Gentile may teach using a different ..." in page 18, and states respectively that the amendment is not taught or suggested by the prior art reference Gentile because Gentile does not teach or suggest providing a plurality of processing methods for each type of region and selecting a particular one of the plurality of processing methods for each region. However the Examiner disagrees because Gentile discusses possible lists or groups [not explicitly as separate lists or groups] of compression methods for visually active / graphics or pictures and for visually less active / text regions [Gentile states some compression schemes are one-color encoding, two-color encoding, run-length encoding, subsampling, LZW, and JPEG, Gentile then also discusses selecting the specific compression method based on the compression factors at hand] (see Gentile, col. 5, lines 11-25 and col. 10, lines 44-58). Therefore, to show a separate explicit listing of compression methods for each visually active / graphics or pictures regions and each visually less active / text region, the Examiner has introduced two new references Queiroz ("Mixed Raster Content MRC model for compound image compression" – 1998 – vol. 3653, pages 1106-1117) and Hiroshi (JP 05-110737, from Applicant's PTO 1449 – Information Disclosure Statement – IDS). Queiroz discloses text is efficiently encoded using standard binary coders such as MMR and JBIG (see Queiroz, page 1109, Section 3. Decomposition and compression analysis, paragraph 2, lines 5-6). Hiroshi discloses drawing/graph

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information subject can be coded for example by MH coding or MR coding and that photograph information subject can be coded using MH coding or MR coding (see Hiroshi, abstract, CONSTITUTION, lines 5-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gentile's method by using Queiroz's and Hiroshi's teachings by including further compression schemes in regard to the specific regions to Gentile's compression schemes in order to more efficiently compress the specific text, graphic, and photograph regions.

Therefore, claims 1-16 are not in condition for allowance because they are still not patentably distinguishable over the prior art references.

Claim Objections

6. Claim 15 is objected to because of the following informalities:

Claim 15, lines 13: "which exhibits the highest" should be -- which exhibits a highest --.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gentile (US 5,949,968, as applied in previous Office Action) in view of Queiroz ("Mixed Raster Content MRC model for compound image compression" – 1998 – vol. 3653, pages 1106-1117) and Hiroshi (JP 05-110737, from Applicant's PTO 1449 – Information Disclosure Statement – IDS).

Re Claim 1: Gentile discloses an image processing device / processing apparatus for output to a visual-output device (see col. 2, lines 4-6), comprising a region extraction unit / within a processor for separating and extracting a character region / text type, a graphic region / graphic type and a photograph region / photograph type from image data / two-dimensional page representation (see Fig. 2, col. 2, lines 26-30); a region compression unit / within a processor for performing a compression process / different algorithms for compressing for the image data in each region / different representation types extracted by said region extraction unit (see col. 2, lines 34-38); a region synthesis unit / within a processor for synthesizing / stored sequentially or displayed together the image data of the regions / different types compressed by said region compression unit (see col. 3, lines 32-38, the compressed data is stored sequentially by the region which is essentially synthesizing or combining the compression regions, or the compressed data after being stored sequentially is decompressed and displayed on a display to the visual-output display as shown in ref. No. 18 or 80 of Fig. 1 and Fig. 3 which is essentially synthesizing or combining the compression regions); and a compression method selection unit / within a processor for selecting from among a plurality of compression methods / compression schemes, one of the plurality of

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compression methods / selection of compression algorithm scheme for each region / different types [visually active / graphics or pictures and for visually less active / text regions] for the compression process to be performed for each region / different types, wherein the selection unit selects the compression method in accordance with a type of the region / different types among the plurality of compression methods / different compression algorithm schemes (see Gentile, col. 2, lines 34-38 and 63-63, abstract, lines 7-14, col. 10, lines 44-58, col. 11, lines 19-32, Gentile teaches selecting one of the compression mechanisms for each of the regions, according to its regions type, from a plurality of compression algorithm schemes corresponding to each different region representation type. Gentile teaches some compression schemes are: one-color encoding; two-color encoding; run-length encoding; LZW encoding; JPEG encoding; lossy encoding, lossless encoding; etc. Gentile also teaches the particular compression algorithm used for each region type is determined based on the compression factors associated with the particular region type [for example: dependent on what ratio / size, computational complexity / speed, or visual quality / picture quality is wanted to be achieved for the particular region, a particular compression scheme from the plurality of compression schemes is selected]. See Gentile, col. 11, lines 53-65, Gentile teaches updating the compression scheme for the particular region if the target compression factors are not achieved therefore showing that plural compression schemes are available for each particular type of region.), and wherein for each type of region, the selection unit selects a compression method only from compression methods in the plurality of compression methods that are designated for the type of region / different

types (see Gentile, col. 5, lines 11-25 and col. 10, lines 44-58, Gentile discusses possible lists or groups [not explicitly as separate lists or groups] of compression methods for visually active / graphics or pictures and for visually less active / text regions [Gentile states *some compression schemes are one-color encoding, two-color encoding, run-length encoding, subsampling, LZW, and JPEG*, Gentile then also discusses selecting the specific compression method based on the compression factors at hand]); said region compression unit / within a processor performing the compression process / different algorithms for compressing for the image data of each region / different representation types using the compression method selected / selection of compression algorithms for the region / different types by said compression method selection unit (see Gentile, col. 2, lines 34-38 and 63-63, abstract, lines 7-14, col. 10, lines 44-58, col. 11, lines 19-32 and 53-65).

However Gentile does not explicitly disclose the possible lists or groups of compression schemes as separate lists or groups for each specific region type [text, graphic, photograph].

Queiroz discloses *text* is efficiently encoded using standard binary coders such as *MMR* and *JBIG* (see Queiroz, page 1109, Section 3. Decomposition and compression analysis, paragraph 2, lines 5-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gentile's method by using Queiroz's teachings by including further compression schemes in regard to the specific regions to Gentile's

compression schemes in order to more efficiently compress the specific text, graphic, and photograph regions.

However Gentile, as modified by Queiroz, does not explicitly disclose the possible lists or groups of compression schemes as separate lists or groups for each specific region type [graphic, photograph].

Hiroshi discloses *drawing/graph* information subject can be coded for example by *MH coding or MR coding* and that *photograph* information subject can be coded using *MH coding or MR coding* (see Hiroshi, abstract, CONSTITUTION, lines 5-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Gentile's method, as modified by Queiroz, using Hiroshi's teachings by including further compression schemes in regard to the specific regions to Gentile's compression schemes in order to more efficiently compress the specific text, graphic, and photograph regions.

Re Claim 5: Gentile discloses an image processing device / processing apparatus for output to a visual-output device (see col. 2, lines 4-6), comprising a region extraction unit / within a processor for separating and extracting a character region / text type, a graphic region / graphic type and a photograph region / photograph type from image data / two-dimensional page representation (see Fig. 2, col. 2, lines 26-30); a region compression unit / within a processor for performing a compression process / different algorithms for compressing the for image data in each region / different representation

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types extracted by said region extraction unit (see col. 2, lines 34-38); a region synthesis unit / within a processor for synthesizing / stored sequentially or displayed together the image data of the regions / different types compressed by said region compression unit (see col. 3, lines 32-38, the compressed data is stored sequentially by the region which is essentially synthesizing or combining the compression regions, or the compressed data after being stored sequentially is decompressed and displayed on a display to the visual-output display as shown in ref. No. 18 or 80 of Fig. 1 or Fig. 3 which is essentially synthesizing or combining the compression regions); and a compression process mode setting unit / selection of compression algorithms using compression factors for setting a speed preference mode / computational complexity, a picture quality preference mode / visual quality or a size preference mode / compression ratio as a compression processing mode (see col. 2, lines 33-41, the selection of a plurality of different compression algorithms corresponding to different representation types with combinations are based on balancing the compression factors of compression ratio or size, computational complexity or speed and visual quality or picture quality); said region compression unit / within a processor using, when the speed preference mode is set / compression algorithms based on computation complexity factor by said compression process mode setting unit, one of a plurality of compression methods designated for the image data in each region / different types which exhibits a highest processing speed / low compression complexity to perform the compression process for the individual region (see col. 2, lines 33-41, col. 3, lines 5-10, when the selection of compression algorithms for the different representation types and their

combinations is based on computational complexity, a low computational complexity results in high processing speed while a high computational complexity results in low processing speed) wherein, for each type of region / different types, the designated compression method is selected from among the plurality of compression methods / selection of compression algorithm from different compression algorithm schemes, wherein each of the plurality of compression methods is designated for the type of region / different types (see Gentile, col. 2, lines 34-38 and 63-63, abstract, lines 7-14, col. 10, lines 44-58, col. 11, lines 19-32, Gentile teaches selecting one of the compression mechanisms for each of the regions, according to its regions type, from a plurality of compression algorithms corresponding to each different region representation type. Gentile teaches some compression schemes are: one-color encoding; two-color encoding; run-length encoding; LZW encoding; JPEG encoding; lossy encoding, lossless encoding; etc. Gentile also teaches the particular compression algorithm used for each region type is determined based on the compression factors associated with the particular region type [for example: dependent on what ratio / size, computational complexity / speed, or visual quality / picture quality is wanted to be achieved for the particular region, a particular compression scheme from the plurality of compression schemes is selected]. See Gentile, col. 11, lines 53-65, Gentile teaches updating the compression scheme for the particular region if the target compression factors are not achieved therefore showing that plural compression schemes are available for each particular type of region.) (see Gentile, col. 5, lines 11-25 and col. 10, lines 44-58, Gentile discusses possible lists or groups [not explicitly as separate lists or

groups] of compression methods for visually active / graphics or pictures and for visually less active / text regions [Gentile states some compression schemes are one-color encoding, two-color encoding, run-length encoding, subsampling, LZW, and JPEG, Gentile then also discusses selecting the specific compression method based on the compression factors at hand]], said region compression unit / within a processor using, when the picture quality preference mode is set / compression algorithms based on visual quality by said compression process mode setting unit, one of the plurality of compression methods designated for the image data in each region / different types which exhibits a least picture quality deterioration / best visual quality to perform the compression process for the individual region (see col. 2, lines 33-41, col. 3, lines 5-10, when the selection of compression algorithms for the different representation types and their combinations is based on visual quality, a best visual quality results in the least picture quality deterioration, a worst visual quality results in the highest picture quality deterioration), wherein, for each type of region / different types, the designated compression method is selected from among the plurality of compression methods / selection of compression algorithm from different compression algorithm schemes, wherein each of the plurality of compression methods is designated for the type of region / different types (see Gentile, col. 2, lines 34-38 and 63-63, abstract, lines 7-14, col. 10, lines 44-58, col. 11, lines 19-32 and lines 53-65, see the similar discussion above), and said region compression unit / within a processor using, when the size preference mode is set / compression algorithms based on the compression ratio factor by said compression process mode setting unit, one of the plurality of compression

methods designated for the image data in each region / different types which exhibits a highest compression ratio / highest compression ratio to perform the compression process for the individual region (see col. 2, lines 33-41, col. 3, lines 5-10, when the selection of compression algorithms for the different representation types and their combinations is based on compression ratio, the highest compression ratio results in a small data size, the least compression ratio results in a large data size), wherein, for each type of region / different types, the designated compression method is selected from among the plurality of compression methods / selection of compression algorithm from different compression algorithm schemes, wherein each of the plurality of compression methods is designated for the type of region / different types (see Gentile, col. 2, lines 34-38 and 63-63, abstract, lines 7-14, col. 10, lines 44-58, col. 11, lines 19-32 and lines 53-65, see the similar discussion above).

However Gentile does not explicitly disclose the possible lists or groups of compression schemes as separate lists or groups for each specific region type [text, graphic, photograph].

Queiroz discloses *text* is efficiently encoded using standard binary coders such as *MMR* and *JBIG* (see Queiroz, page 1109, Section 3. Decomposition and compression analysis, paragraph 2, lines 5-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gentile's method by using Queiroz's teachings by including further compression schemes in regard to the specific regions to Gentile's

compression schemes in order to more efficiently compress the specific text, graphic, and photograph regions.

However Gentile, as modified by Queiroz, does not explicitly disclose the possible lists or groups of compression schemes as separate lists or groups for each specific region type [graphic, photograph].

Hiroshi discloses *drawing/graph* information subject can be coded for example by *MH coding or MR coding* and that *photograph* information subject can be coded using *MH coding or MR coding* (see Hiroshi, abstract, CONSTITUTION, lines 5-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Gentile's method, as modified by Queiroz, using Hiroshi's teachings by including further compression schemes in regard to the specific regions to Gentile's compression schemes in order to more efficiently compress the specific text, graphic, and photograph regions.

Re Claim 6: Gentile discloses an image processing device / processing apparatus for output to a visual-output device (see col. 2, lines 4-6), comprising an object extraction unit / within a processor for interpreting a document file / page representation described in a page description language / text, graphic and photograph or any combination, and extracting an object / text, graphic and photograph or any combination which is a component of the document file / page representation (see Fig. 2, col. 2, lines 26-30), an object compression unit / within a processor for performing a compression process /

different algorithms for compressing for each of the object data / different representation types extracted by said object extraction unit (see col. 2, lines 34-38); an object synthesis unit / within a processor for synthesizing / stored sequentially or displayed together the object data / different types compressed by said object compression unit (see col. 3, lines 32-38, the compressed data is stored sequentially by the type which is essentially synthesizing or combining the compressed object data, or the compressed data after being stored sequentially is decompressed and displayed on a display to the visual-output display as shown in ref. No. 18 or 80 of Fig. 1 or Fig. 3 which is essentially synthesizing or combining the compressed object data); and a compression method selection unit / within a processor for selecting a compression method / selection of compression algorithms for the compression process to be performed for each of the objects / different types extracted by said object extraction unit from among a plurality of compression methods designated individually for types / corresponding with different representation types of the object data (see col. 2, lines 33-41, the selection of a plurality of different compression algorithms corresponding to different representation types with combinations), wherein, for each type of object / different types, the designated compression method is selected from among a plurality of compression methods / selection of compression algorithm from different compression algorithm schemes, that are designated for the type of object / different types (see Gentile, col. 2, lines 34-38 and 63-63, abstract, lines 7-14, col. 10, lines 44-58, col. 11, lines 19-32, Gentile teaches selecting one of the compression mechanisms for each of the objects, according to its object type, from a plurality of compression algorithms corresponding to

each different object representation type. Gentile teaches some compression schemes are: one-color encoding; two-color encoding; run-length encoding; LZW encoding; JPEG encoding; lossy encoding, lossless encoding; etc. Gentile also teaches the particular compression algorithm used for each object type is determined based on the compression factors associated with the particular object type [for example: dependent on what ratio / size, computational complexity / speed, or visual quality / picture quality is wanted to be achieved for the particular object, a particular compression scheme from the plurality of compression schemes is selected]. See Gentile, col. 11, lines 53-65, Gentile teaches updating the compression scheme for the particular object if the target compression factors are not achieved therefore showing that plural compression schemes are available for each particular type of object.) (see Gentile, col. 5, lines 11-25 and col. 10, lines 44-58, Gentile discusses possible lists or groups [not explicitly as separate lists or groups] of compression methods for visually active / graphics or pictures and for visually less active / text regions [Gentile states some compression schemes are one-color encoding, two-color encoding, run-length encoding, subsampling, LZW, and JPEG, Gentile then also discusses selecting the specific compression method based on the compression factors at hand]); said object compression unit / within a processor performing the compression process / different algorithms for compressing for each of the objects / different representation types using the compression method selected / selection of compression algorithms for the objects / different types by said compression method selection unit (see Gentile, col. 2, lines 34-38 and 63-63, abstract, lines 7-14, col. 10, lines 44-58, col. 11, lines 19-32 and 53-65).

However Gentile does not explicitly disclose the possible lists or groups of compression schemes as separate lists or groups for each specific region type [text, graphic, photograph].

Queiroz discloses *text* is efficiently encoded using standard binary coders such as *MMR* and *JBIG* (see Queiroz, page 1109, Section 3. Decomposition and compression analysis, paragraph 2, lines 5-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gentile's method by using Queiroz's teachings by including further compression schemes in regard to the specific regions to Gentile's compression schemes in order to more efficiently compress the specific text, graphic, and photograph regions.

However Gentile, as modified by Queiroz, does not explicitly disclose the possible lists or groups of compression schemes as separate lists or groups for each specific region type [graphic, photograph].

Hiroshi discloses *drawing/graph* information subject can be coded for example by *MH coding* or *MR coding* and that *photograph* information subject can be coded using *MH coding* or *MR coding* (see Hiroshi, abstract, CONSTITUTION, lines 5-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Gentile's method, as modified by Queiroz, using Hiroshi's teachings by including further compression schemes in regard to the specific regions to Gentile's compression schemes in order to more efficiently compress the specific text, graphic, and photograph regions.

As to claims 2-4, the discussions are addressed with respect to claim 5.

As to claims 7-11, the claims are the corresponding method claims to claims 1-5 respectively. The discussions are addressed with regard to claims 1-5.

As to claims 12-16, the claims are the corresponding computer-readable medium claims to claims 1-5 respectively. The discussions are addressed with regard to claims 1-5.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. De Queiroz discloses method and apparatus for segmenting data to create mixed raster content planes.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jingge Wu/

Supervisory Patent Examiner, Art Unit 2624

Bernard Krasnic

July 21, 2008